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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,601	10/06/2003	Mehryar Khalili Garakani	2705-287	5758

20575 7590 05/02/2007
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EXAMINER	
ABELSON, RONALD B	

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
05/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary	**Application No.** 10/680,601	**Applicant(s)** GARAKANI ET AL.
	Examiner Ronald Abelson	**Art Unit** 2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *5/23/05, 4/21/05, and 10/6/03*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *4, 5, 7-11 and 22* is/are allowed.

6)☒ Claim(s) *1-3,6,12-21 and 23-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date *5/23/05, 4/21/05*.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claim 3 rejected under 35 U.S.C. 102(e) as being anticipated by Kim (US 6,771,648).

Kim teaches monitoring bandwidth being used to transmit calls on a communication link having a particular bandwidth threshold, said monitoring performed after the calls are established and while the calls are in progress such that actual, non-predicted bandwidth usage is observed for the calls (CAC, periodic measurements, current link utilization, buffer occupancy, col. 2 lines 14-19) and limiting the number of calls admitted for transmission on said link when the bandwidth being used approaches said particular bandwidth threshold (new connection admitted if, col. 1 lines 54 - 62); wherein the monitoring is performed independently of any bandwidth estimates generated before the calls are transmitted on the communication link (CAC, periodic measurements, current link utilization, buffer occupancy, col. 2 lines 14-19).

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 24 is rejected under 35 U.S.C. 102(b) as being anticipated by Cloonan (US 20020126699).

Regarding claim 24, Cloonan teaches a memory coupled to the one or more processors comprising instructions executable by the processors (CAC, [0055]); operable when executing the instructions to: admit new calls to a communication link without suppressing existing calls when a feedback signals that existing calls are not currently consuming an amount of bandwidth that approaches a bandwidth threshold for the communication link amount of bandwidth requested below amount available accept the request, [0055]); and admit the new calls to the communication link and suppress selected ones of the existing calls when the feedback signals that the existing calls are currently consuming an amount of bandwidth that does approach the bandwidth threshold (CMTS can still accept request, packets are lost based on priority of service flow type, [0055]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Davis (US 5,453,986).

Regarding claims 12 and 13, Kim a call admission control system for admitting calls for transmission by said communication system CAC, col. 2 lines 14-22); a packet transmission link having a particular bandwidth threshold (link, col. 2 lines 14-22); a monitoring mechanism for observing monitoring a currently used amount of bandwidth being used to transmit each of the calls on said packet transmission link, the currently used amount of bandwidth being non-averaged and different for at least two of the calls (CAC, periodic measurements, current link utilization, buffer occupancy, col. 2 lines 14-19); and a feedback mechanism for feeding back to said call admission control system a signal to limit the calls admitted calls when the bandwidth being used approaches said particular bandwidth threshold dynamic CAC, new connection admitted if, col. 5 lines 51-64). The examiner corresponds the applicant's threshold with B_{link} in the reference.

Kim is silent on loss-less codecs for packetizing telephone calls for transmission on said packet transmission link.

Davis teaches loss-less codecs for packetizing telephone calls for transmission on said packet transmission link (fig. 3 box 305).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Kim by using the codec of Davis to convert the speaker's voice into an electrical signal, as shown by Davis. This modification would benefit the system by facilitating the conversion of voice into an electrical signal that can be transported over the network.

6. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim in view of Cloonan and Gardner (US 7,103,068).

Regarding claim 1, Kim teaches packetizing calls for transmission over a communication link having a particular bandwidth threshold (fig. 4, col. 6 lines 59-62). Note, ATM data is transmitted in cells/packets.

Kim teaches monitoring an amount of bandwidth being used to transmit the packetized calls on said communication link (CAC, periodic measurements, current link utilization, buffer occupancy, col. 2 lines 14-19).

Kim teaches feeding back to said a call admission control mechanism a signal to limit the new calls admitted when the bandwidth being used approaches said particular bandwidth threshold (dynamic CAC, new connection admitted if, col. 5 lines 51-64). The examiner corresponds the applicant's threshold with B_{link} in the reference.

Although Kim teaches multiple priority level (CBR, VBR, ABR, UBR, col. 6 lines 57-59), the reference is silent on identifying packetized calls that are lower priority than remaining packetized calls when the bandwidth being used

approaches said particular bandwidth threshold;
when one or more lower priority calls are identified, suppressing the lower priority calls by reducing an amount of transmitted packets corresponding to the lower priority calls to provide bandwidth for the new calls.

Cloonan teaches identifying packetized calls that are lower priority than remaining packetized calls when the bandwidth being used approaches said particular bandwidth threshold (amount of requested bandwidth greater than the amount of available bandwidth, packets to be lost can be selected based on priority of service flow type, [0055]); when one or more lower priority calls are identified, suppressing the lower priority calls by reducing an amount of transmitted packets corresponding to the lower priority calls to provide bandwidth for the new calls (packets to be lost can be selected based on priority of service flow type, [0055]).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Kim by implementing the algorithm of Cloonan to suppress lower priority calls in order to admit a higher priority call, as shown by Cloonan. This modification can be performed in software. This modification would benefit the system by ensuring that higher priority traffic is transmitted.

The combination is silent on when there are no identified lower priority calls, selecting one or more of the packetized calls for suppression regardless of whether the packetized calls are all equal priority so that non-selected calls are completely unsuppressed such that only the selected calls are affected by over-subscription.

Gardner teaches selecting one or more of the packetized calls for suppression regardless of whether the packetized calls are all equal priority so that non-selected calls are completely unsuppressed such that only the selected calls are affected by over-subscription (some calls transported at a lower rate, col. 5 lines 22-28). Examiner corresponds applicant's one or more of the packetized calls for suppression with the calls transported at a lower rate in Gardner.

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by given a scenario when there are no identified lower priority calls selecting one or more of the packetized calls for suppression regardless of whether the packetized calls are all equal priority so that non-selected calls are completely unsuppressed such that only the selected calls are affected by over-subscription, as suggested by Gardner. This modification can be performed in software. This modification would benefit the system by freeing up additional bandwidth without degrading the QoS (Gardner: col. 5 lines 22-28).

Regarding claim 2, wherein the monitoring is performed after the packetized calls are established and while the packetized calls are in progress, such that actual, non-predicted bandwidth usage is observed for the packetized calls (Kim: CAC, periodic measurements, current link utilization, buffer occupancy, col. 2 lines 14-19).

7. Claim 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Kay (US 5,513,183) in view of Kim.

Regarding claim 21, Kay teaches a means for admitting calls for transmission (fig. 37, CAC, col. 20 lines 30-34) on a communication link that connects a base transceiver station and a base station controller (fig. 37 BTS, BSC, col. 20 lines 8-11) operating according to the Global System for Mobile Communication" (GSM) system protocol and includes a particular bandwidth limit (GSM, col. 20 lines 46 - 49). Note, all links have a bandwidth limit.

Kay teaches means for packetized telephone calls admitted for transmission on said communication link (GSM, col. 20 lines 46 - 49). Note, in GSM data are transmitted in packets.

Although Kay teaches CAC, the reference is silent on a means for monitoring an observed amount of bandwidth being used to transmit calls on said communication link; and means for feeding back to said call admission control mechanism a signal to limit the calls admitted when the bandwidth being used approaches said particular bandwidth limit.

Kim teaches a means for monitoring an observed amount of bandwidth being used to transmit calls on said communication link (CAC, periodic measurements, current link utilization, buffer occupancy, col. 2 lines 14-19); and means for feeding back to said call admission control mechanism a signal to limit the calls admitted when the bandwidth being used approaches said particular bandwidth limit (dynamic CAC, new connection admitted if, col. 5 lines 51-64). The examiner corresponds the applicant's limit with B_{link} in the reference.

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Kay by implementing the CAC algorithm of Kim, as shown. This modification can be performed in software. This modification would benefit the system by overcoming the under-utilization of link bandwidth (Kim: col. 2 lines 14-15).

8. Claims 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tervo (US 7,200,384) in view of Kim and Gardner.

Regarding claim 20, Tervo teaches packetizing telephone calls using loss-less codecs (col. 10 lines 55-56) for transmission on a said communication link that connects a base transceiver station and a base station controller using loss less codecs (fig. 1 BTS1, BTS2, BSC1, col. 6 lines 29-34).

Tervo is silent on teaches monitoring the amount of bandwidth being used to transmit calls on said communication link that includes a particular bandwidth limit; feeding back to a call admission control mechanism that is connected to a transmission side of the communication link a signal to limit new calls admitted when the bandwidth being used approaches said particular bandwidth limit; admitting the news calls without reducing an amount of packets used for the transmitted calls when the signal indicates that the particular bandwidth limit is not approached.

Kim teaches monitoring the amount of bandwidth being used to transmit calls on said communication link that includes a particular bandwidth limit (CAC, periodic measurements, current link utilization, buffer occupancy, col. 2 lines 14-19); feeding back to a call admission control mechanism that is connected to a transmission side of the communication link a signal to limit new calls admitted when the bandwidth being used approaches said particular bandwidth limit (dynamic CAC, new connection admitted if, col. 5 lines 51-64); admitting the news calls without reducing an amount of packets used for the transmitted calls when the signal indicates that the particular bandwidth limit is not approached (dynamic CAC, new connection admitted if, col. 5 lines 51-64).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Tervo by implementing the CAC algorithm, as shown by Kim. This modification can be performed in software. This modification would benefit the system by overcoming the under-utilization of link bandwidth (Kim: col. 2 lines 14-15).

Regarding claim 23, wherein the monitoring is performed after the packetized calls are established and while the packetized calls are in progress, such that actual, non-predicted bandwidth usage is observed for the packetized calls (Kim: CAC, periodic measurements, current link utilization, buffer occupancy, col. 2 lines 14-19).

The combination is silent on when the signal indicates that the particular bandwidth limit is being approached, admitting the new calls and reducing an amount of packets transmitted for only a selected number of the transmitted calls without reducing an amount of packets used for the remaining transmitted calls regardless of whether the selected calls have a same identified priority as the remaining transmitted calls.

Gardner teaches when the signal indicates that the particular bandwidth limit is being approached, admitting the new calls and reducing an amount of packets transmitted for only a selected number of the transmitted calls without reducing an amount of packets used for the remaining transmitted calls regardless of whether the selected calls have a same identified priority as the remaining transmitted calls (some calls transported at a lower rate, col. 5 lines 22-28)

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by given a scenario when there are no identified lower priority calls selecting one or more of the packetized calls for suppression regardless of whether the packetized calls are all equal priority so that non-selected calls are completely unsuppressed such that only the selected calls are affected by over-subscription, as suggested by Gardner. This modification can be performed in software. This modification would benefit the system by freeing up additional bandwidth without degrading the QoS (Gardner: col. 5 lines 22-28).

9. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cloonan as applied to claim 24 above, and further in view of Kim.

Regarding claim 25 although Cloonan teaches admission of the new calls and suppression of the selected ones of the existing calls is responsive to feedback (CAC, [0055]) the reference is silent the feedback represents actual bandwidth usage that is independent of any bandwidth estimates generated before the existing calls are included on the communication link.

Kim teaches the feedback represents actual bandwidth usage that is independent of any bandwidth estimates generated before the existing calls are included on the communication link (dynamic CAC, new connection admitted if, col. 5 lines 51-64).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Tervo by implementing the CAC algorithm, as shown by Kim. This modification can be performed in software. This modification would benefit the system by overcoming the under-utilization of link bandwidth (Kim: col. 2 lines 14-15).

Regarding claim 26, the processors are further operable to select the suppressed calls according to priority (Cloonan: CMTS can still accept request, packets are lost based on priority of service flow type, [0055]).

Regarding claim 27, the selected calls are not identified as being any lower priority than the non-selected calls (Cloonan: CMTS can still accept request, packets to be lost selected at random, [0055]).

10. Claims 14, 15 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kim and Davis as applied to claims 12/13 above, and further in view of Lee (US 20030129988).

Regarding claims 14 and 15, although the combination teaches a CAC, the combination is silent on the communication link connects a Base Transceiver Station to a Base Station Controller.

Lee teaches a CAC for monitoring a communication link that connects a Base Transceiver Station to a Base Station Controller (fig. 2).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of combination by incorporating the CAC within the system of Lee. This modification can be performed according to the teachings of Lee. This modification would benefit the system by providing the actual bandwidth usage of the system to the CAC, thus providing for more efficient use of bandwidth.

11. Claims 16 - 17 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kim, Davis and Lee

as applied to claims 14 and 15 above, and further in view of Danne (US 5,761,619).

Although the combination teaches a Base Transceiver Station and said Base Station Controller the combination is silent on the Base Transceiver Station and the Base Station Controller operate using the GSM.

Danne teaches a Base Transceiver Station and a Base Station Controller operate using the GSM (fig. 1a, col. 1 lines 10-52).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by incorporating the system in a GSM environment, as suggested by Danne. This modification can be performed in according to the teachings of Danne. This modification would benefit the system since GSM is a predominant wireless communication protocol.

12. Claims 18/19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kim and Davis as applied to claims 12/13 above, and further in view of Danne.

The combination is silent on each of said loss-less codecs is associated with one DS0 channel and handles four telephone calls.

Danne teaches GSM (fig. 1a, col. 1 lines 10-52), furthermore it is well known in GSM that each loss-less codecs is associated with one DS0 channel and handles four telephone calls.

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by incorporating the system in a GSM environment, as suggested by Danne. This modification can be performed in according to the teachings of Danne. This modification would benefit the system since GSM is a predominant wireless communication protocol.

13. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim, Cloonan, and Gardner as applied to claim 1 above, and further in view of Lee (US 20030129988).

Regarding claim 6, although the combination teaches a CAC, the combination is silent on the communication link connects a Base Transceiver Station to a Base Station Controller.

Lee teaches a CAC for monitoring a communication link that connects a Base Transceiver Station to a Base Station Controller (fig. 2).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of combination by incorporating the CAC within the system of Lee. This modification can be performed according to the teachings of Lee. This modification would benefit the system by providing the actual bandwidth usage of the system to the CAC, thus providing for more efficient use of bandwidth.

Allowable Subject Matter

14. Claims 4, 5, 7-11 and 22 are allowed.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (571) 272-3165. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ronald Abelson
Examiner
Art Unit 2616

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